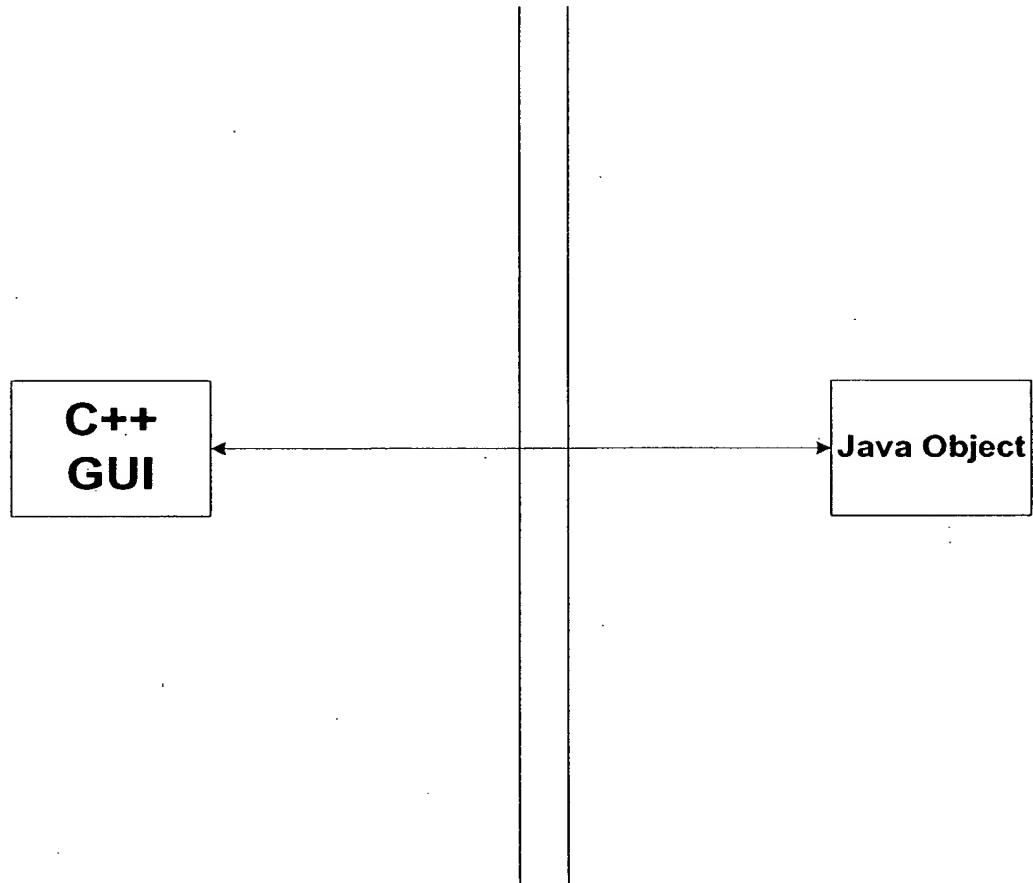
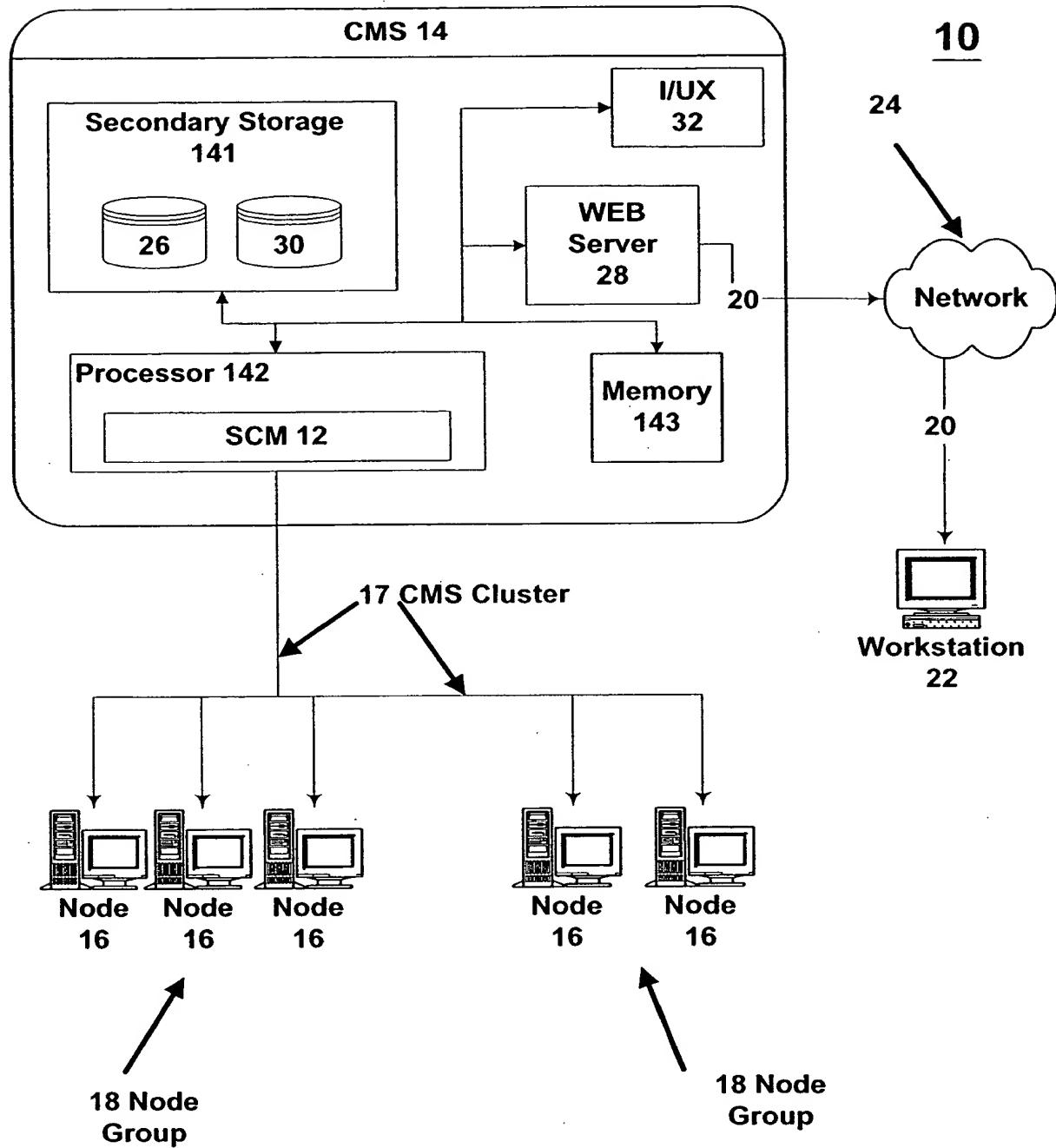


# JNI

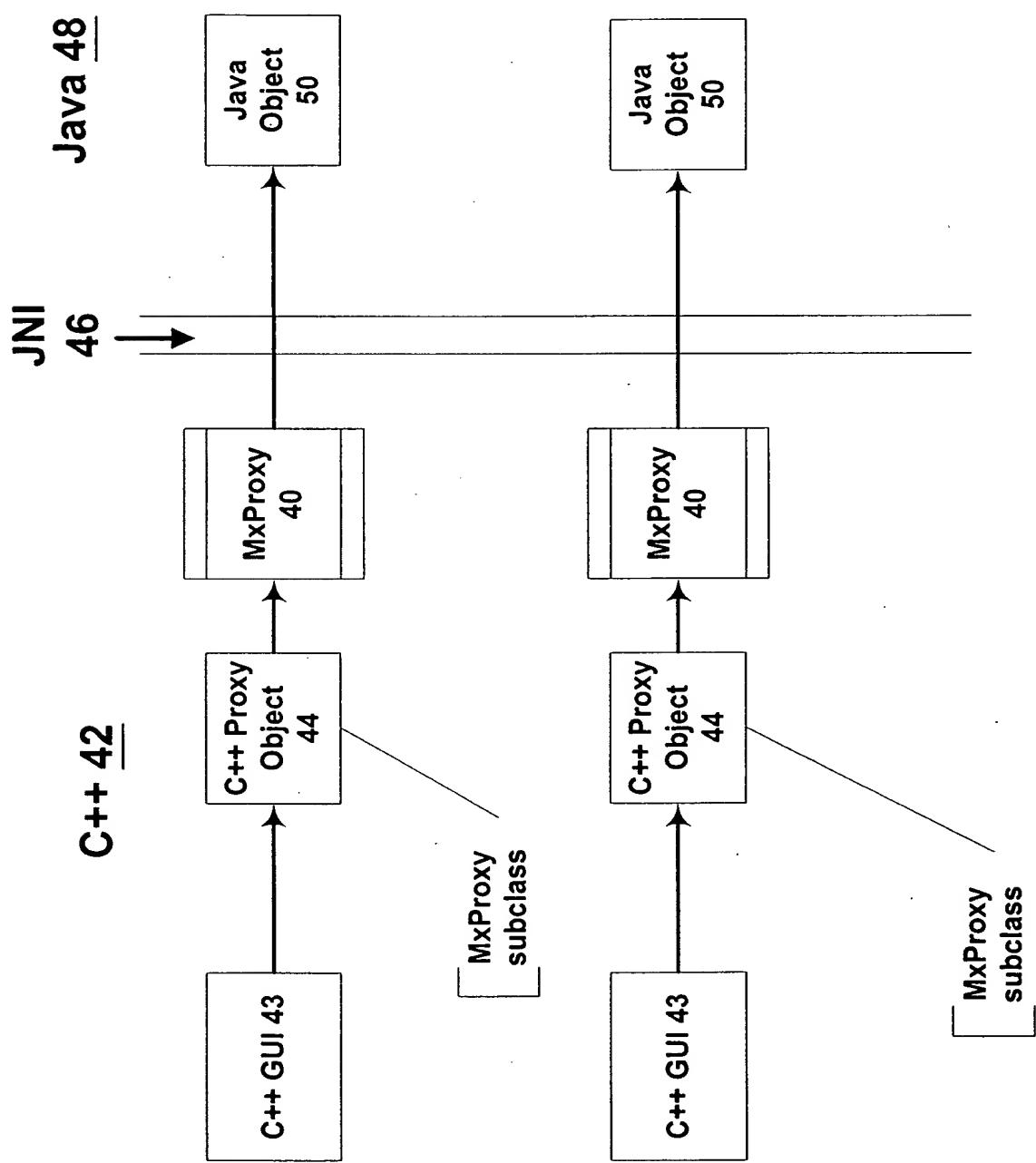


**FIGURE 1**

1000 900 800 700 600 500 400 300 200 100 0



**FIGURE 2**



**FIGURE 3**

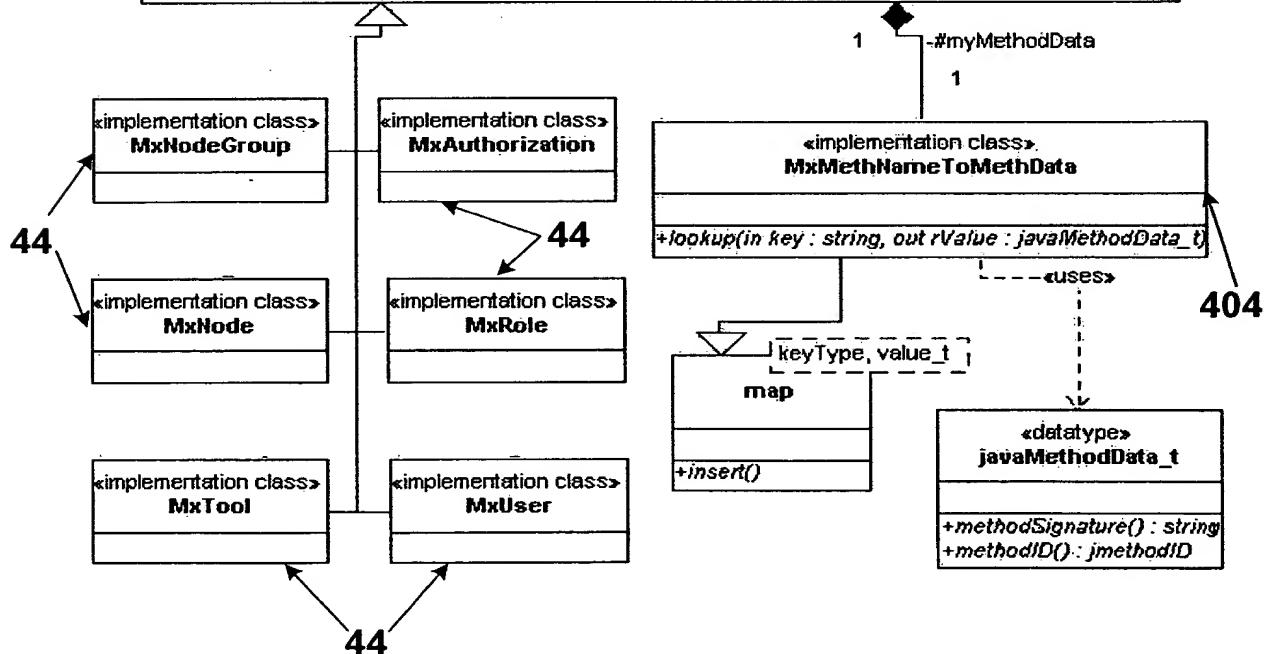
**40**

```

<implementation class>
MxProxy
#myJniEnv : JNlEnv *
#myJavaObject : jobject
#myJavaClass : jclass
#myClassName : string
#myMethodData : MxMethodNameToMethData

+MxProxy()
+MxProxy(in proxyObject : MxProxy &)
+getJavaObject() : jobject
+getClassName() : string
#init(in env : JNlEnv *, in javaObject : jobject, in className : string &)
#getJniEnv() : JNlEnv *
#getMethodID(in methodName : string &) : jmethodID
#getString(in methodName : string &) : string *
#getBool(in methodName : string &) : bool
#getLong(in methodName : string &) : long long
#getInt(in methodName : string &) : long
#getObject(in methodName : string &) : jobject
#getIntArray(in methodName : string &) : intVector_t *
#getStringArray(in methodName : string &) : strVector_t *
#getObjectArray(in methodName : string &) : jobjectArray
#setString(in methodName : string &, in cppString : string &)
#setBool(in methodName : string &, in cppBool : bool)
#setLong(in methodName : string &, in cppLong : long long)
#setInt(in methodName : string &, in cppInt : long)
#setIntGetBool(in methodName : string &, in cppInt : long) : bool
#setObject(in methodName : string &, in cppObject : MxProxy &)
#setIntArray(in methodName : string &, in cppVector : intVector_t &)
#setStringArray(in methodName : string &, in cppVector : strvector_t &)
#setNameObject(in methodName : string &, in classPath : string &, in name : string &)
#setNameObjectArray(in methodName : string &, in classPath : string &, in cppVector : strvector_t &)
#newNameObject(in javaClassPath : string &, in name : string &)

```



**FIGURE 4A**

◀Implementation class>

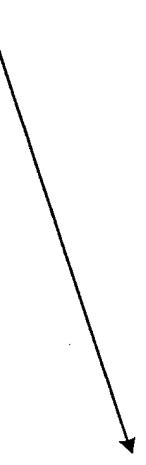
**MxTool**

---

```

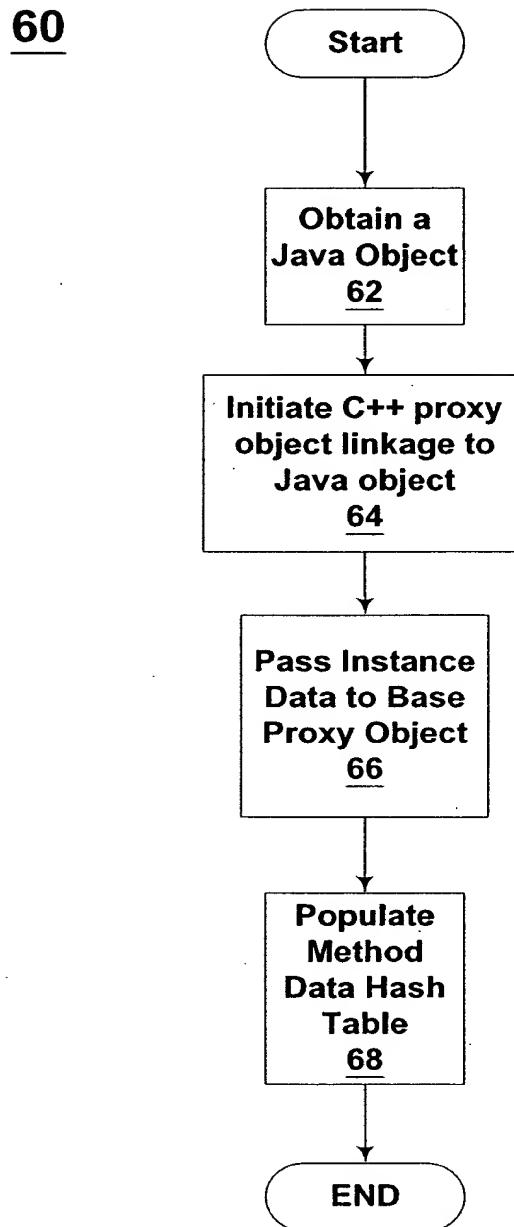
+MxTool(in env: JNlEnv *, in javaObject : jobject, in className : string &)
+setObjectName(in toolName : string &),
+getObjectName() : string *
+setCreatedBy(in creatorID : long)
+getCreatedBy() : long
+setModifiedBy(in modifierID : long)
+getModifiedBy() : long
+setCreatedTime(in milliseconds: long long)
+getCreatedTime() : long long
+setModifiedTime(in milliseconds : long long)
+getModifiedTime() : long long
+setMultiSystemAware(in newFlag : bool)
+getMultiSystemAware() : bool
+setToolLaunchable(in newFlag : bool)
+getToolLaunchable() : bool
+setDescription(in description: string &)
+get.getDescription() : string *
+setComment(in comment : string &)
+getComment() : string *
+setOwnedBy(in ownedBy : long)
+getOwnedBy() : long
+setExecutedBy(in executedBy : long)
+getExecutedBy() : long
+addFileCopyPair(in source : string &, in destination: string &)
+removeFileCopyPair(in source : string &, in destination : string &)
+getFiles() : pairVector_t *
+setFiles(in files: pairVector_t &)
+addRole(in newRole : long)
+replaceRoles(in newRoles : intVector_t &)
+addRoles(in newRoles : intVector_t &)
.....
```

441



**FIGURE 4B**

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**FIGURE 5**

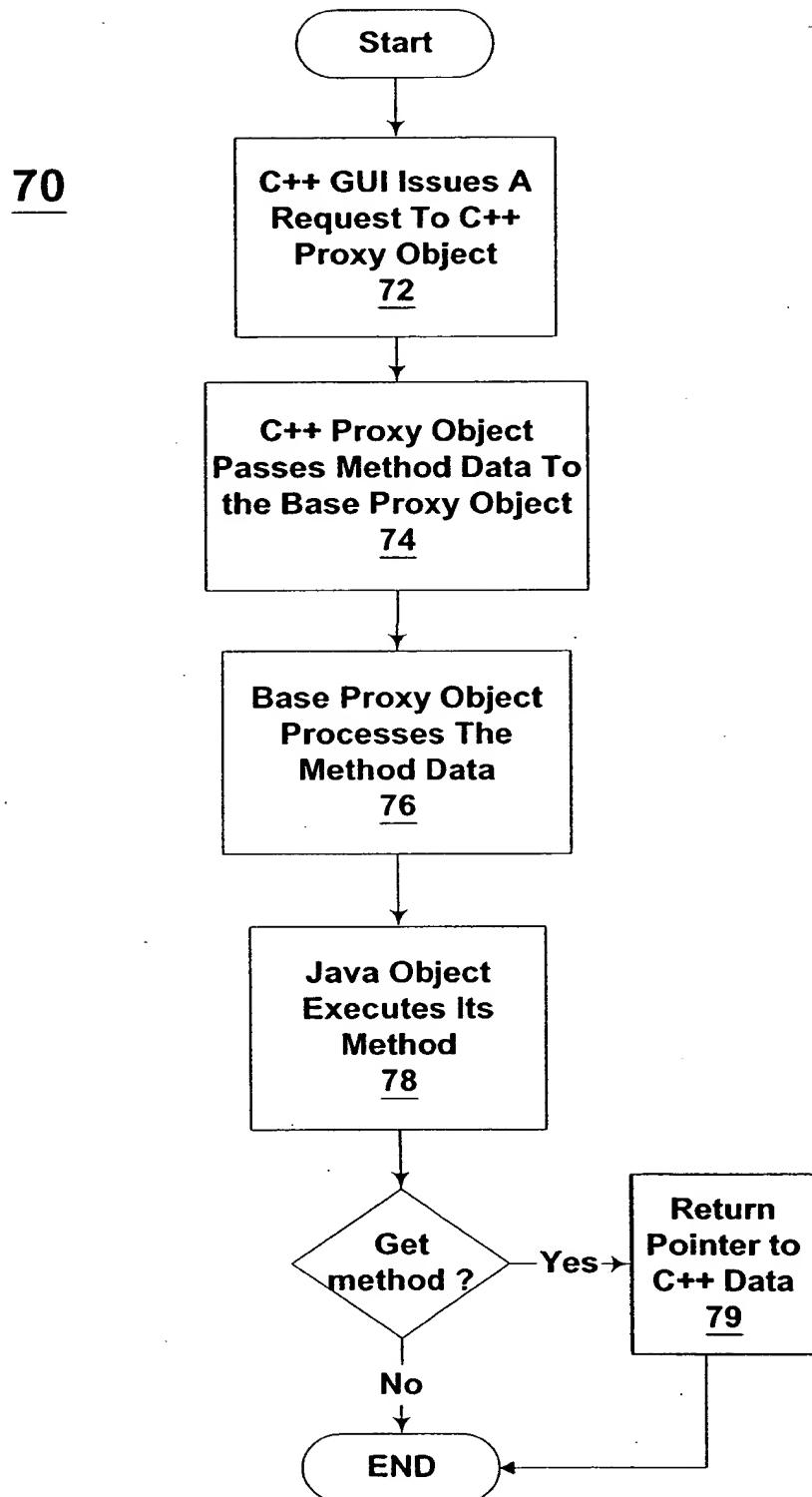
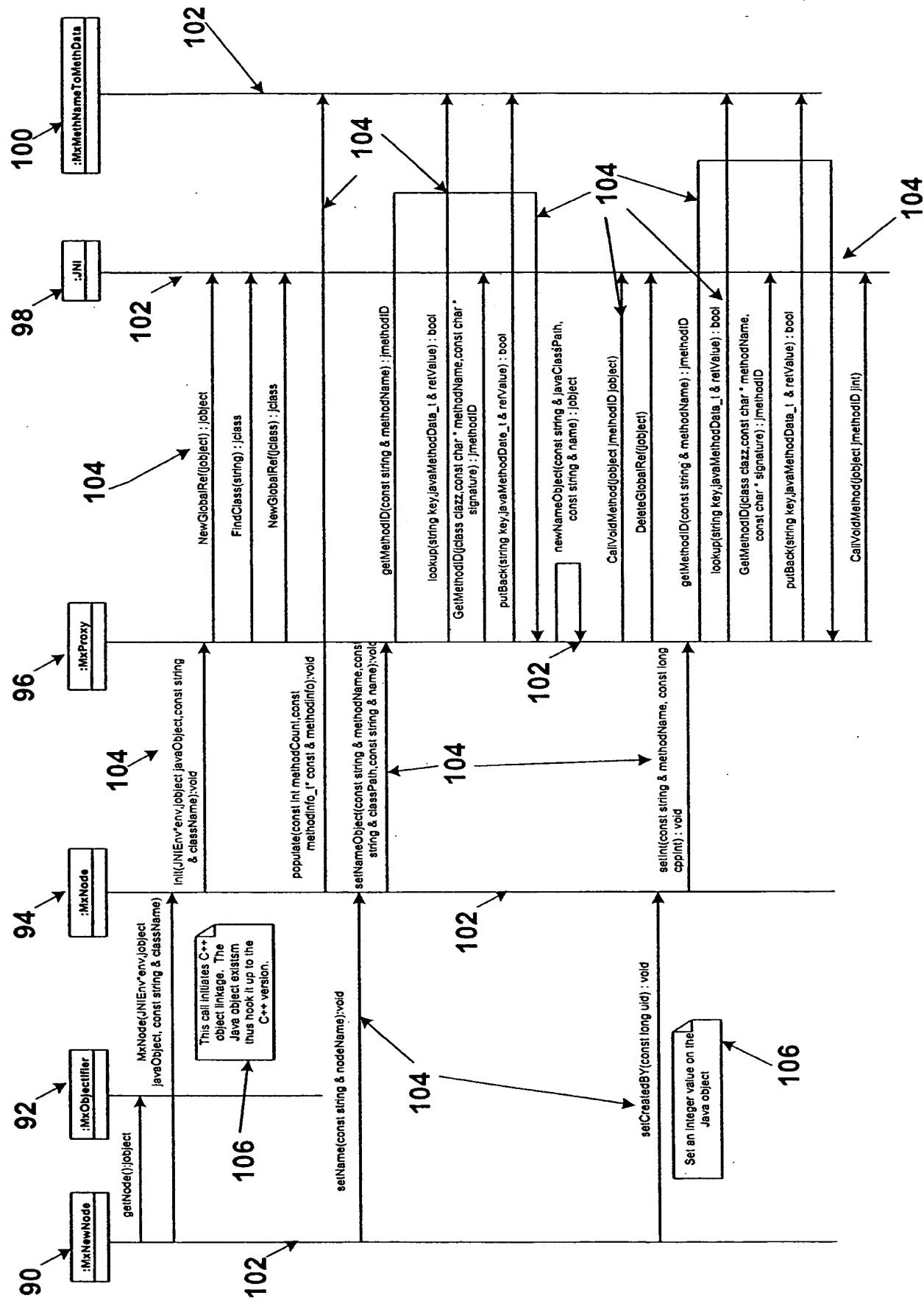


FIGURE 6



## FIGURE 7